

4/23/2010

STATEMENT OF WORK

Provide services and materials to install new fueling station located on GRC Hangar apron.

Work scope:

The new fueling station must provide for over-the-wing and single point refueling/defueling. The requirement is for dual pumping capability (two hoses). The following is a list of specifications required:

Pump and Filtration Module-160 GPM Tank Offloading and Recirculation System with pump, 10hp motor (230-460V/3 phase/60HZ) Filter Monitor rated at 200 GP, Explosion-Proof Start Stop, Static Reel, Butterfly and Check Valves as needed, Pressure Gauge, Inlet and Discharge Piping per ATA.

Containment Pan for PFT

Aluminum Total Access Enclosure for PFT Module

Direct-to Plane Module- Under-wing Fueling; 80-100 GPM Refueling system, 2" LC Meter, 50 foot Hydraulic Dead-man Hose, Spring Rewind Dead-man reel, Dead man Control Handle, 2" X 50' Aircraft Refueling Hose, Spring Rewind Hose Reel, Under-wing Single Point Refueling Nozzle, 50' Spring Rewind Static Reel, Butterfly and Globe Valves as needed, Pressure Gauge, Inlet and Discharge Piping, and Box Frame Skid Assembly.

Aluminum Total Access Enclosure for DPT Module

Provide Up-Grade PFT (Pump and Filtration/DTP (Direct-to-Plane) Jet-A Module

System Functions:

Unload Transports into Storage via Filter at 200 USGPM, Re-circulate Stored Fuel via Filter at 200 USGPM, Over-wing Refuel at 35 to 50 USGPM, Under-wing Refuel at 100 to 110 USGPM.

Pump:

3" Positive Displacement Pump with integral gear reducer and bypass relief valve flexibly coupled to a 15 hp, 1750 rpm, 230-460V3/60HZ, explosion proof motor, base mounted w/cplg guard.

Filter/Separator:

5th edition Cat. M Filter Separator with coalescer/separator elements, air eliminator, check valve, pressure relief valve, piston type differential pressure gauge w/push button dual SS fuel sample probes, manual drain, float-switch , and Sump Heater with Thermostat.

Meter:

2" Liquid Control Meter with large numeral counter rated at 150 USGPN flow rate, Aluminum and SS construction.

Hose Reel:

1-1/2" Hose Reel electric rewind with motor and rewind switch 120V/1/60HZ aluminum internals.

Hose:

1-1/2" X 75 FT aircraft refueling hose, male coupled with female QD one end, Tested, certified, and serialized, per NFPA 407.

Nozzles:

1-1/2" Over-wing Nozzle with inlet swivel, 100 mesh SS strainer, bump ring, ground clip/plug and dust cap, male QD. Single Point Nozzle with 2" inlet swivel, 100 mesh strainer, 45 psi HECV, male QD.

System Piping:

(1)3" Aluminum cam lock adapter with dust cap, (3)3" check valves, ductile iron-SS trim, and wafer, (3)3" butterfly valves, ductile iron-SS trim, and wafer, (1)1-1/2" stainless steel ball valve-flanged, (1) 3" basket strainer, carbon steel with SS basket, (2) 4-1/2" Liquid Filled gauges (1-compound-1-pressure) with SS isolation valves, All welded sch-40 carbon steel piping upstream of filter, All 304 SS welded piping downstream of filter to aircraft.

Back Pressure Valve:

3" OCV back Pressure Relief with dual solenoids for HI/Lo Pressure with selector switch for Over/Under-wing fueling, Epoxy Lined ductile iron construction with SS pilots and tubing, 150 lb flg.

Static Reel:

Static Reel, spring re-wind with clear plastic-coated cable and approved ground clip.

Controls:

Start-Stop Station, Motor Starter, Water Defense/Deadman Controller with dual IS relays and alarm pilot light, 75 ft of cable on spring re-wind with deadman handle.

Skid-Enclosure-

Fabricated steel, perimeter box frame skid with structural steel cross-members to support key element items, primed and painted high gloss white enamel finish, Total Access Aluminum Cabinet Enclosure, removable panels, SS hardware, half panel drop down doors, provisions for locking with self-welded containment pan.

Installation Requirements:

System Installation per scope listed here: Labor, Materials, Equipment, Permits as required to install new Jet Fuel Module, and Remove and Dispose of existing fuel cabinets. Disconnect piping in sump, remove check valve, open man-way and modify suction piping to floating suction permitting one pipe to be used as a fill line. Finish and install overfill prevention valve with aluminum fill. Connect ne Jet Fuel Module cabinet fill/supply to existing underground piping previously used for suction line. Disconnect drain, clean out and dispose of old fueling cabinets, Furnish Crane to off-load and set new Jet Fuel Module and remove existing modules, Modify suction from UST as required to interface with new module with stainless steel fittings, Furnish and install additional conduit as required from existing conduit connections to new module, Provide License Electrician and Licensed UST technicians as required, Test and Flush system as required with existing owner supplied Jet Fuel, Provide Training in operations and maintenance of new Jet Fuel Module, Undergo NASA Safety, environmental and security training briefings for all on-site personnel as required.

Gerald Anschuetz

NASA Quality Assurance